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ABSTRACT

A general conceptual model on the consumption of information is introduced. Information as the output of the mass media is treated as a product, and a model on the consumption of this product is developed by merging elements from consumer behavior theory and mass communication theory. Chapter I gives basic assumptions about the individual and the way in which mass communication functions. A general frame of reference is constructed in chapter II, and some methodological problems are discussed. Chapter III explains the need for information in terms of when and how much. Chapter IV sets up a general explanation of how consumption of information takes place, and chapter V develops a theory which explains how much information the individual will consume in relation to a specific need for information. The concluding chapter deals with the question of the choice of information source. (Author/CHV)

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CONSUMPTION OF MASS COMMUNICATION

- CONSTRUCTION OF A MODEL ON INFORMATION CONSUMPTION BEHAVIOUR

BY

PREBEN SEPSTRUP

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I. INTRODUCTION

1. Background [1)]

There exists a lot of empirical results on use of information or consumption of mass media. Thoroughgoing theorizing is seldom found, and there is no commonly accepted model on information consumption. For both research purposes and practical purposes there is, however, a felt need for a theory or model of this kind. Research needs it to interpret the numerous data on the subject and to plan further data collection more intelligently. Perhaps a theory is even more needed for practical purposes. More and more people become increasingly dependent on information if they shall understand both their immediate and more distant surroundings, and more and more people are engaged in the administration of information processes. Both the senders and the receivers have a need for understanding the determinants of the consumption of information. The problems arizing from this lack of understanding is the motivation for the research behind this paper. However, it does not satisfy the need for a general, acceptable theory. At the best some of the elements in the theory presented here can be used by others in their search for explanations.

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1) This paper is an abbreviated and revized edition of the book: "Forbrug af massekommunikation", Institut for Presseforskning, Aarhus 1977.

Therefore, this paper is not written for the sake of presenting something finished, but to stimulate those working with consumer information, communication between authorities and citizens or those who take care of mass communication in some other way, and last but not least to obtain some feed-back before further development of the model.

2. Purpose

The purpose of this paper is to introduce a general model on the consumption of information. The basic idea of the paper is to consider the output of the mass media - information - a product like other products and to develop a model on the consumption of this special product by merging elements from consumer behaviour theory and mass communication theory.

The purpose involves two problems. The first is to develop a general frame of reference for the understanding of the individual's information acquisition. The other is to develop a model, which can be used to describe, explain, and predict needs for information, kinds of information wanted and consumed, and sources of information wanted and actually used.

3. Outline and methodology

This paper is purely theoretical. First some assumptions about the individual and the way in which mass communication functions are presented. Then a general frame of reference is built up in chapter II. In the light of this, the problem is further defined and some methodological problems discussed. Chapter III explains the need for information - when and how much. Chapter IV sets up a general explanation of how consumption of information takes place, and chapter V develops a theory which explains how much information the individual will consume in relation to a certain need for information. Finally, chapter VI deals with the question of the choice of information source.

It is important to emphasize that at the present stage of our understanding of consumption of mass communication it is not helpful to concentrate on any special subject like consumer information or news or civic information, even if understanding of that special subject is the ultimate goal.
E.g. consumer behaviour or political decisions are part of the individual's total behaviour, and acquisition of e.g. product information is again an integrated part of the individual's total consumption of information and can only be understood in that context.

From the outset we must focus on a general understanding of what leads the individual to use a given information source, also if we want to understand the consumption of information in relation to e.g. buying or voting. Once we have formulated a general theory, we can start to build more detailed and specific theories with special relevance to given subsets of behaviour. It is the idea of this paper to advace such a general understanding.

II. FRAME OF REFERENCE

1. Assumptions about the individual

The purpose of this section is to stipulate some important features of human behaviour. The first feature is the assumption that man's behaviour is purposeful or goal oriented. The goals are not given from birth, but determined for instance by consumed information, experience, social relations, and surroundings.

The goals directing human behaviour are specific and not generalized, except for one very general rule, saying that the individual seeks a maximum of need satisfaction. This of course does not mean that the individual fulfils this purpose. Being a problem solver does not mean that all problems are solved. The individual behaves as if he tries to maximize the difference between utility and effort. Also it is assumed that the individual basically is able to behave appropriately in relation to his goals. If the behaviour seems inappropriate the reason is to be found outside the individual.

These few assumptions are important to the development of the whole theory, and lie behind the very basic idea that information consumption is one among several functions leading to the achievement of the goals of the individual. Consumption of information substitutes and may be substituted by other activities. The individual seeks, applies and rejects information as a means of achieving maximum need satisfaction with the least possible effort. The individual's use of information is instrumental in relation to need satisfaction, as is all consumption.

2. Assumptions about the functioning of mass communication

The conception of information consumption being instrumental is identical with a functional approach to the understanding of the functioning and effect of mass communication. The model constructed in this paper belongs to the so-called "uses and gratifications" tradition.[1)]

According to this tradition it is not the media that affect people,

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1) For a description and analysis of the tradition see e.g. Katz, Blumler, and Gurevitch 1973.

but people that utilize the media, because they have problems (needs) and interests which make the use of different information sources necessary. Primarily it is not only the characteristics of information that condition the use of information, but also the characteristics of society, groups, and individuals.

It is further assumed as a principal rule that the individual does not perceive and is not influenced by information not needed. The receivers in the communication process are selective in their media contact. Use of information takes place because the individual expects some kind of need satisfaction. Competing information sources are all fulfilling certain functions for a goal-oriented individual.

3. The concept of information

In order to build the necessary frame of reference (purpose one of this paper) it is necessary to define the central concept of information.

Information is defined as knowledge about circumstances outside the individual which he receives through his sensory apparatus, and is able to interpret meaningfully, which means that the individual gets an idea of what the knowledge can be used for.

The model concerns only information coming from what is normally called media, including other people, but excluding e.g. physical experience. This definition of the concept of information means that what is known beforehand is also considered information, but this does not necessarily mean that it has what is here termed information value. This concept of information value is further developed in chapter VI.4.1. Suffice it here to state that information value is defined in relation to the individual's information storage or knowledge. The information storage consists of two components, viz. a content component and a probability component. Knowledge about circumstances outside the individual that is already inherent in the storage is still information, but it has no informational value unless the probability component is changed. The same information may involve different information value for different people. It depends on the individual whether something is information or not, and so does the value of information.

Consumption of information means receipt of information through the sensory apparatus.

4. Construction of a frame of reference

The use of mass media has been explained from many points of view. As stated in section I.2. information is here considered a product, and consequently the use of mass media is considered consumption of this product.[1] This approach makes it possible to draw on consumer behaviour theory. It therefore goes without saying that the frame of reference must refer to the basic features of the product and the consumption behaviour.

It follows from section II.1. that an obvious point of departure for the construction of a frame of reference is consumer goals. The consumer has a goal if he is able to perceive a situation which is different from his present situation and wants to change to that situation. (I am able to imagine myself better trained and I want to be better trained, so I have a goal or problem or need).

Consumption of information is one of many means of achieving different goals. This consumption of information (watching the news, reading a brochure) may be categorized in many ways. The most appropriate seems to be Schramm's distinction[2] between immediate and delayed reward referring to the moment of the gratification. This distinction produces two categories. The first category includes consumption of information where the gratification, derived from the satisfaction of the information need, is related to the moment of consumption. The consumer does not intend to use the information beyond the moment of consumption. The usefulness of the information consumed is direct. (Examples are: watching a movie on tv, reading a novel, entertaining oneself with the glamourous pictures of magazine advertisements). Normally, this category of information is called entertainment. For analytical purposes we may call it directly instrumental consumption of information.

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1) This point of view has never been thoroughly developed before.

2) See Schramm 1949.

The second category includes consumption of information where the gratification derived from the satisfaction of the information need is not related to the moment of consumption. The consumer intends to use the information beyond the moment of consumption, the usefulness being indirect. (Examples are: going through the supermarket advertisements to find the best bargain, reading brochures to understand the advantages of different materials for rugs, or reading the tv-programme). For analytical purposes we call this category indirectly instrumental consumption of information.

A "behavioural unit" like shopping may relate solely to one of the two categories, but it is very likely that elements from both categories are involved. Also the same "behavioural unit" may lead to consumption of information in relation to different goals (shopping, reading the newspaper). Therefore consumption of information cannot be understood from the observable behaviour alone. It is also obvious that a source of information is more attractive if it appeals to the motives behind both categories, and the more goals it is related to.

These multi-functional aspects in the use of mass media are a very complicating factor - especially in empirical investigations - but they are also an important factor in a realistic understanding of the consumption of media.

The multi-functional element has been the cause of much confusion in mass communication research.[1] One of the reasons is that the starting point of most researchers has been the content of the media (the product offered) and not the needs of the consumers. This failure is avoided here, due to the influence from consumer behaviour theory, teaching us to start with the consumer and his social relations.

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1) Cf the conclusion in McQuail et al 1972, p. 162: ".... the relationship between content categories and audience needs is far less tidy and more complex than most commentators have appreciated. It is not just that most popular programmes are multi-dimensional in appeal. It is also the case that we have no single scale by which we can reliably attach a value to any given content category. Given the heterogeneity of materials transmitted over the broadcast media, not only is one man's meat another man's poison, but one man's source of escape from the real world is a point of anchorage for another man's place in it. .... There is neither a one-to-one correspondence between communication content and audience motivation, nor ....".

An important aspect of all kinds of consumer behaviour is the behavioural routines. Information routines are a parallel to the multi-functional nature of mass media, because they are an adaption of the appropriateness of fulfilling several functions at the same time. Routines are necessary because of the combination of many needs and restricted resources. It is here hypothesised that the consumer tries to satisfy as many informational needs as possible through informational routines, which we also call the normal media use. Normal media use is the best combination of media the consumer can find to give him a satisfactory coverage of these normal informational needs compared to the effort of using the media. The routines are broken only when important problems cannot be solved in the ordinary way.[1] (A consumer in the market for a new car consults his friends and family or watches out for advertisements in the daily paper. If this is not enough he will consider the trouble of contacting a less well-known person or perhaps the library for an issue of a consumer's journal, or of visiting a retailer.)

In the next section our effort in this paper is restricted to building a model on consumption of indirectly instrumental information. This does not mean that direct use of information is of no interest. On the contrary, direct information is important for the understanding of indirect information, because consumption of direct information may lead the consumer to consumption of indirect information. Probably most consumption of indirect information is due to exposure to the medium because of routines or because the consumer will use the medium for direct purposes.

The probability of direct instrumental consumption leading to indirect instrumental consumption is higher for some media - e.g. the daily press and magazines - than for others like books or radio. The more heterogeneous the content of the medium, the more likely it is that one kind of consumption of information leads to another.

A few more concepts (analytical tools) are necessary to complete the frame of reference. First we shall distinguish between two

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1) A further treatment of normal media use is to be found in chapter IV.

kinds of attention. Active attention means that the perception of information is an important purpose of the behaviour leading to the perception of information. Normally, this kind of behaviour is characterised as seeking information. Passive attention means that the perception of information is due to some other kind of behaviour. When a person looks for the tv-programme he may be aware of an advertisement. This attention is passive.

Further, it will prove useful to distinguish between initial attention and continued attention.[1] Initial attention is the initial change from exposure to concentration of one or more senses on an element in the information source. Continued attention is the possible further concentration on more elements. (When the consumer reads his newspaper, initial attention tells him e.g. that here is and advertisement, perhaps that it is an advertisement for e.g. instant coffee. If he immediately moves his eyes to a picture showing the first snow in the streets, his attention has been initial only. If the consumer goes on reading the advertisement and notes the brand name and/or price and/or some arguments for purchasing the product, we call it continued attention.)

5. Delimitations

The purpose of this paper is to build a model on the consumption of information. Consumption of direct instrumental information is not covered by the theory, neither are the effects of consumption of information.

6. Outline

The problem of constructing a model that can help us describe, understand, and forecast the information consumption behaviour involves at least four problems:

1) A WHAT-problem, involving the size and kind of the information need (chapter III).

2) A HOW-problem, involving possible ways of satisfying the need

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1) Cf Ottesen 1977.

for information (chapter III).

3) A HOW MUCH-problem, involving the amount of information. The dependent variable will be formulated as the probability that consumption of information takes place in relation to a certain informational need (chapter V).

4) A WHERE-problem, involving the specific choice of information source, including the choice between routines and use of information outside normal media use and the transition from initial to continued attention (chapter VI).

Figure 1 sums up the results of the paper. The purpose of the figure is to give the reader an idea of the structure of the total model before we go into details with individual problems. There will be no discussion or analysis in this section, only a presentation of the main structure of the theory.

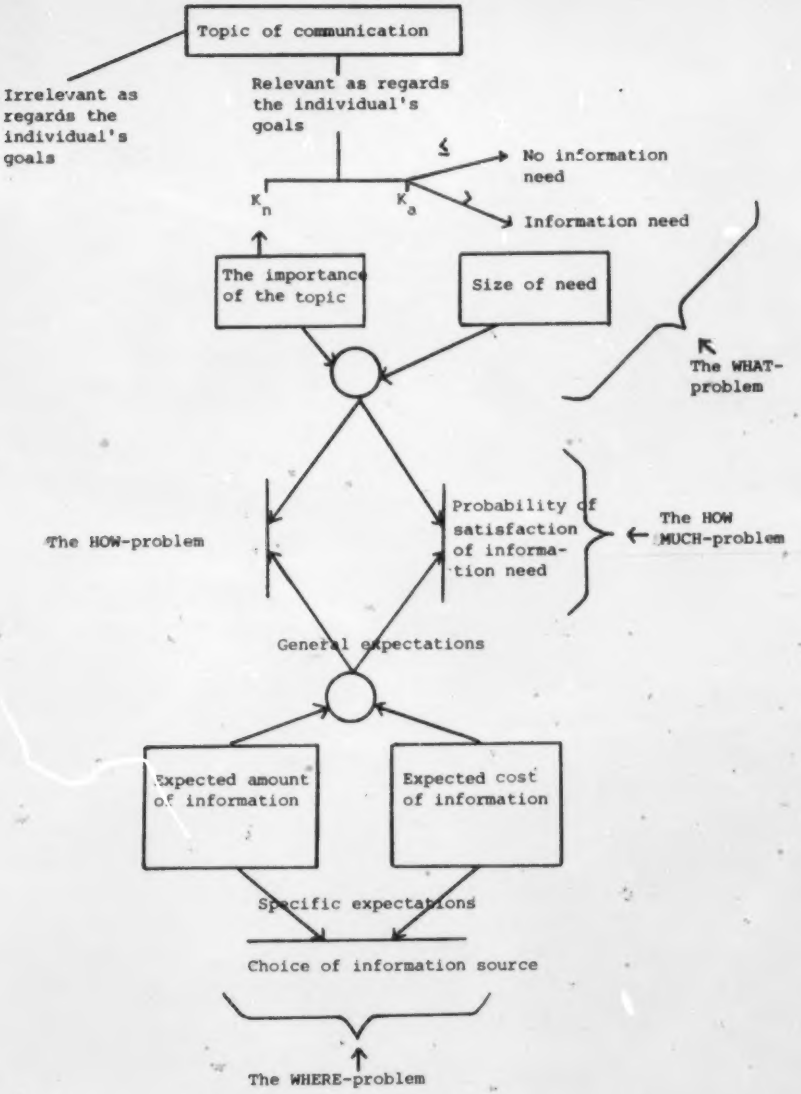
Figure 1 shows that for every (relevant) object of communication there exists a combination of necessary knowledge (K_n) and actual knowledge (K_a). The consumer has an information need if K_n is bigger than K_a. An important determinant of necessary knowledge is the consumer's evaluation of the importance of the product or topic in question. The need for information is characterised not only by its size, but also by the topic it is related to. This is the WHAT-problem.

Figure 1 shows further that the size of the information need and the importance of the topic are independent variables in relation to the dependent variable in the HOW MUCH-problem. This means that the importance of the topic (product) has its own direct effect as well as an indirect effect through the size of the information need.

Figure 1 also shows that the answer to the HOW MUCH-problem is found not only in the importance of the topic, but also in the consumer's general expectations regarding the possibility of obtaining information, and the trouble of doing so (costs of information).

Finally, figure 1 shows that the latter variables are also important to the WHERE-problem, even though we now deal with specific

Figure II.1. Summary of the structure of the model.



and not general expectations.

Figure 1 is a brief summary only, but it does illustrate that the WHAT-problem influences the HOW MUCH-problem, and that the same basic variables (at different levels of specification) influence both the HOW, the HOW MUCH, and the WHERE-problems. This should be sufficient illustration of the complexity of information consumption behaviour, and perhaps also enough to explain why nobody has tried to describe or explain the relations between the dimensions of the use of information. The model does not solve this problem, but it opens up for empiric research on the subject.

7. Methodological questions

The model focuses on the problems of the information receiver.[1] The approach is not e.g. a psychological or an economic one, but a combined use of individual, sociological, and economic variables.

An important purpose of the paper is to explore the possibilities of finding useful, general structures, which can then function as a general background for more detailed work in relation to specific areas of interest. This purpose leads to a rather abstract model. Hopefully, it will pay off in a better and more homogeneous design and interpretation of studies of specific areas.

Today there seems to be too much empirical research and too little theoretical research in the field of information use studies. Valuable empirical research demands a theory or model to start from. This need is the inspiration for this paper, which as mentioned before is purely theoretical. The model is, however, also rooted in empirical research results. There is a general basis of research in mass communication behind the theory of information need, together with a number of empirical investigations.[2] The same is more or less true as regards the other empirical problems. Besides, references are continuously made to empirical research results, which support different elements in the model.

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1) Such a theory is of course also a prerequisite of solving the problems of the information producer.

2) Sepstrup 1973.

A difficult problem is how conscious the consumer is of the different processes described in the model. When e.g. the consumer chooses an information source, his choice is supposed to be determined i.a. by the costs/trouble connected with the use of information. Is this cost evaluation conscious, subconscious, or unconscious? And what is to be understood by these terms?

There is no knowledge that can justify hypotheses about the level of consciousness, but it turns out that it does not lead to any obvious changes of the model - or its practical consequences - to change the assumptions about the level of consciousness. Therefore, the methodological approach has been not to decide on the level of consciousness. If the processes take place at an unconsciousness level we assume that the unconsciousness functions in accordance with the goals of the individual. The following chapters are based on the assumption that the behaviour turns out as if the described processes take place whether actual considerations take place or not.

III. The WHAT-problem: on what topics does the consumer want information, and how much?

In this chapter we shall try to explain when the consumer will be interested in information, which - according to chapters II.1. and II.2. - is a prerequisite of the establishment of communication processes. The chapter only deals with the need for information. The conditions for the fulfilment of the need are treated in chapters IV-VI.

1. First necessary condition: relevant topic

The theoretical assumptions in II.1. and II.2. imply that the consumer will not seek (active, initial and continued attention) information on topics that are not considered relevant (products/news that the consumer is not interested in). The consumer may get in touch with information on irrelevant topics through passive, initial attention, but normally there is only little probability that it will lead to continued information.

This means that if a person considers a topic irrelevant, it is very difficult to reach such a person by mass communication on that subject. It is, however, not totally impossible. Consumption of information concerning an irrelevant topic may take place as a consequence of passive, initial attention. The possibility of this is greater the more direct instrumental information and the less cost[1] the consumer expects as a consequence of the continued attention.[2] The main conclusion of the stipulations in chapter II therefore is that the consumer is only interested in information dealing with a relevant topic (e.g. product or product characteristic). We have thus identified a necessary condition of consumption of information.

It is important to note that "topic" is not a broad category. A topic may be relevant (wanted), but this is not enough to ensure consumption of information. It is also necessary to communicate about the relevant features of the topic.

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1) See VI.5.

2) If a communicator tries to attract those not interested by adding direct instrumental information, he will often irritate those interested in the topic.

2. Second necessary condition: perceived information need

The question to be answered in this section is whether all relevant topics are equal as regards the consumer's interest in information. The consumer is e.g. interested in sports, food prices, cars, or in new boots for his children. Will he consume information about all of these topics?

Common sense tells us that a consumer would like to know more about some topics, and feels that he knows enough about others. The same common sense (and the stipulations in chapter II) tell us that it is an important (so important that we call it necessary) prerequisite of consumption of indirect instrumental information that the individual needs the information, which means that he wants to know more.

In order to describe this second condition we use the concept of perceived information need. The term perceived indicates that information need is a subjective concept, the contents of which may very well differ from what various groups will call objective information needs.

The concept and function of information need can be derived almost solely from common sense. This, however, does not make the concept less important. The existing literature tries to establish a direct relationship between means (use of media) and goals. The use of the intervening variable information need (and relevance) makes it possible to reach a better understanding of the relationship. It might even be assumed that the attempt to establish a direct relation between media use and other needs than information needs has been an important reason for the lack of development in the understanding of the use of the mass media. One cannot solely explain the reading of newspaper A, or an article in this newspaper by specific non-informational needs, or explain why a housewife goes through children's wear advertisements or visits retail outlets solely by the need for clothes for her children.

2.1. On information needs

The empirical background for this section is a series of studies reported in Sepstrup 1973. The findings are not to be repeated

here. It should be mentioned, however, that it was found out that the main reason why it is so difficult to make empirical investigations on comsumption of information is that typically the information needs are not associated with relevant topics, but with specific dimensions of the topic, and that there are almost immense cost and value interrelationships.

Therefore, at the beginning, we must be satisfied with reliable, but simple models of the complicated reality.

A need may generally be understood as a difference between the way things are and the way the individual would like them to be. In order to determine and measure the concept of information need we must therefore find out what constitutes the actual and the wanted situation. The actual situation is described through the variable perceived actual knowledge (K_a), defined as the knowledge the consumer thinks he possesses in relation to a certain topic (or dimension of a topic).

The wanted situation is described through the variable perceived, necessary knowledge (K_n), defined as the knowledge the consumer feels is necessary in order to be able to act/decide/feel secure/satisfied, etc. in relation to a certain topic.

If K_a is larger or as large as K_n there is no information need. If K_a is smaller than K_n there is a need for information. The larger the difference between K_a and K_n, the larger the need for information. Consumption of information cannot only reduce, but also increase a need for information.

Research on measurement of subjective information need has been scarce. The operationalizations of perceived risk[1] are much more complicated than those of subjective information need as defined here. Field research[2] indicates that very simple methods give reliable and valid results.

The basic theory presented here will, hopefully, be extended by determinants of K_a and K_n. For the time being, we shall only

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1) See Cox 1967.

2) See Sepstrup 1972.

hypothesise that one variable plays a role, namely the perceived importance of the topic,[1] which determines K_n. The determinants of the perceived importance depends on the topic. Possible determinants are experience, interests, use of information, income and age.

We have now identified two necessary conditions to be fulfilled if the individual is to receive (consume) information. It is noteworthy that the two prerequisites are not fulfilled in many mass communication situations, such as news flow, public information, or advertising. Furthermore, most of the literature on communication and information management is devoted to an attempt to find ways to suspend the two necessary conditions (without stating the problem explicitly, of course).

The attempts in practice to work against the basic rules are the cause of much of the criticism of many kinds of mass communication. The model establishes a platform for a new practice in better accordance with common and individual interests.

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1) See Sepstrup 1973.

IV. The HOW-problem: procedures for need satisfaction

This chapter forms an important background for the next two chapters and widens the understanding of information consumption through an extension of the frame of reference as regards procedures for satisfaction of information needs.

It is an important element in the total model that there are three main procedures for acquisition of information.

As mentioned in II.4., the consumer is assumed to have a normal or routine consumption of media. This normal use of media is defined as regular use of the same media and is not motivated by a specific need. The normal use of media covers a need for direct instrumental information (it gives pleasure during the moment of consumption) and it is composed of media which, according to experience, on the average satisfies different needs of information (what is on tv, super-market bargains, city-council decisions, the knowledge that nothing dangerous has happened in the world). These needs cannot be specified beforehand, but generally we know they will be there. Their satisfaction depends on indirect instrumental information.

This normal media use leads to passive, initial attention towards a lot of topics (the consumer sits down with his daily newspaper after work, and while relaxing he also registers that this is an advertisement for product A, this is an article on baking, this on Christmas habits, etc.). This way of getting in contact with information is the first main procedure for acquisition of information, if the initial attention is followed by continued attention (e.g. reading parts or all of the advertisement/article). We may call this procedure passive attention due to normal media use, and assume that the consumer primarily seeks to satisfy his information needs this way. In doing so, the consumer makes the most of the cost relations and information-value relations. There are no figures to support this hypothesis directly, but to the author it is an important conclusion from the totality of registrations on reading habits, information habits, media habits, and leisure habits.[1)]

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1) A parallel assumption is briefly mentioned in Howard and Sheth 1969, p. 154.

The second main procedure for acquisition of information is active, initial and continued attention (information seeking) towards a specific topic inside normal media use. (The consumer is interested in information on colour-tv and looks for advertisements in his daily paper, but does not buy a consumer journal or go to a retail outlet). We may call this procedure active attention due to normal media use, and assume that this is the most used way of information acquisition next to passive attention due to normal media use.

It may be impossible in empirical research to separate the two procedures - cf the joint treatment in the frame of reference and the next chapter - but the difference is important, when we want to understand how people solve the problem of being informed.

The third, and less used, main procedure for acquisition of information is active, initial and continuous attention outside normal media use in relation to a specific topic (going to a shop to ask for a brochure, phoning a consumer council for advice). Normally this implies higher costs than the two other procedures. We may call this procedure active attention outside normal media use.

Information consumption behaviour does not necessarily escalate from the first to the third procedure. It may begin or end with each of the procedures.

Principally, there is a fourth main procedure for acquisition of information, namely passive, initial (followed by continued) attention outside normal media use. This means that the consumer is incidentally exposed to an information source, because of some other kind of behaviour - (waiting at the dentist's or driving home and as a consequence of this being exposed to information like a magazine in the waiting room or billboards along the road). The costs of information in such cases are rather low.

Whether the consumer tries to satisfy his needs for information inside or outside normal media use depends on his demands and expectations towards information value and costs compared with the size of the information need and the importance of the

topic.[1] The information need also explains whether passive or active attention is used in normal media use. The more important the topic and the bigger the need for information, the more likely is active attention.[2]

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1) See chapter VI.

2) This opens up for an alternative explanation of the many empirical results, which are normally explained as a result of selective processes, see e.g. Klapper 1963.

V. Given a need for information: to what extent is it satisfied?

Chapter III took up the so-called WHAT-problem. We found that every consumer in relation to any topic will be in one of three situations: 1) the topic is irrelevant, or 2) the topic is relevant and a) K_a is bigger or equal to K_n, which means that the consumer has no need for information, or b) K_a is smaller than K_n, which means that the consumer has a need for information. We also saw that consumption of information is almost out of the question in the first two situations.

Chapter IV described the possible procedures for acquisition of information. Four variables were identified as important for need satisfaction.

In this chapter we shall construct a model which tells us to what degree a need for information will be satisfied. The model must tell about the individual's motives, possibilities, and restrictions when it comes to consumption of information.

1. Basic elements of the model

Our starting point is a consumer who has a need for information (he wants to buy a tv-set, but feels that he knows less than necessary on design, quality, and prices). What determines the extent to which this need is satisfied?

The first determinant to be mentioned is the costs of information. This variable is analysed more closely in chapter VI. Suffice it here to say that information costs are the difficulties or the efforts related to the use of an information source like time, money, and various inconveniences.

Information costs are the most important limiting factor of consumption of information.[1] The model assumes that the consumer acquires information (relative to a certain topic) as long as it seems worth while. The consumer behaves as if the difficulties (costs) and the importance of the topic are balanced against each other (more time for seeking information on prices is acceptable

1) The concept of information cost is often used implicitly in the literature. Direct use of the concept is rare, but is found in e.g. Schramm 1954, Farley 1964, Downs 1961, Lanzetta and Kanereff 1962, Pruitt 1957, Green 1966, Irwin and Schmidt 1957, Bucklin 1965, Bucklin 1966, Lundberg and Hultén 1968, and Atkin 1973.

for a family in the lower income brackets than in the higher income brackets; information on social security justifies much more effort than does the buying of a new record). The behaviour normally does not lead to objective optimal decisions. The consumer is not an "economic man". He reacts to reality as perceived by him.

The model further assumes that the maximum cost is not only determined by the importance of the topic, but also by the expected possibility of acquiring the information wanted. (The consumer may want reliable information on the durability of tv-sets and he may find this purchase an important topic. But if he expects that it is very difficult to find this information, he will only accept rather small costs of trying). The probability of finding the information wanted is a determinant of the cost the consumer is willing to accept. This phenomenon is incorporated in the model through the variable expected amount of information, which is defined as the portion of the need for information the consumer expects in order to be satisfied. "Expects" is a general evaluation based on the consumer's experiences. The term "expect" does neither here nor anywhere else imply anything about the level of consciousness of the process.

The assumptions stated of course hold true of all sizes of information need, but besides the model also assumes that the size of the need for information is a determinant for the amount of information consumed. In the model this phenomenon is stated as follows: the larger the need for information, the higher the probability of consumption of information, other things being equal. (If the consumer plans his holidays, thinking that he knows the prices of charter flights to Spain, but knows little of the prices for renting a house at the coast, he will give priority to information on the latter issue).

It is important to note that expected amount of information in many cases is only part of the expected utility of information consumption. Other expected gratifications may influence the use of information. This gives rise to information value and information cost interrelations, which may be able to explain behaviour that cannot be understood solely from the assumptions made here. Such gratifications are not taken into account here, but it is important to integrate them in the theory, when it is further

developed.

Five variables have now been identified as important determinants of the consumption of information:[1] 1) the size of the information need, 2) the importance of the topic, 3) expected amount of information inside normal media use, 4) expected amount of information outside normal media use, and 5) expected costs of the perceived information sources (the various relevant sources known to the consumer, which form the background for the expected amount of information).

Unfortunately, the exact formulation of the dependent variable in the model is rather difficult. The ideal is a variable expressing the amount of information consumed. This is, however, impossible because of the lack of a usable concept, expressing amount of information in this sense. Another possibility is amount of information as defined here. This has been tried without success.

In the search for a definition of the dependent variable the only realistic possibility to be found has been the probability of information consumption in relation to a certain need for information, P(C) [2]. The consumer does not himself think in terms of P(C), but he can be brought to express expectations that are close to our understanding of P(C).

Figure V.1. illustrates the model (on the how much-problem) as developed until now.

Other variables than the five registered in the figure may influence P(C), but it is hypothesised that they are the most important determinants, explaining most of the variations in P(C). How then, do these variables influence the consumption of information? Answers cannot be given in detail. Things are too complicated, and we know too little. What we can hope for is some main structure to help us understand and predict the consumption and predict the consumption of information in broad outline.

The model describes the main structure in the relationship between

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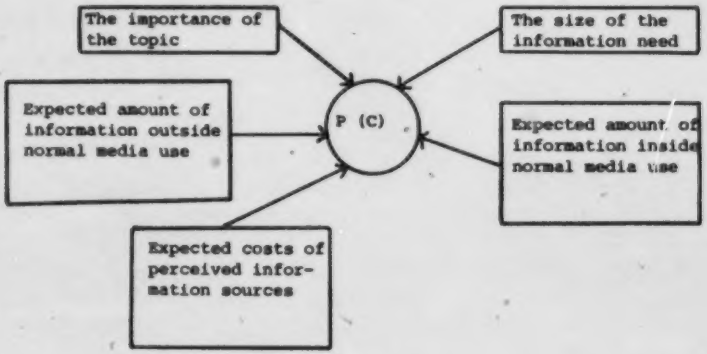
1) Cf also chapter IV.

2) P=probability, C=consumption.

Figure V.1. Graphic illustration of the first version of the model


The importance of the topic
The size of the information need
Expected amount of information outside normal media use
P (C)
Expected amount of information inside normal media use
Expected costs of perceived information sources

P(C) and the independent variables in the following manner: $P(C): f(a \cdot x_2 + b \cdot x_1 + c \cdot \frac{x1}{x4} + d \cdot x_3 + e \cdot \frac{x3}{x4} + f \cdot x_5 + g \cdot \frac{x_5}{x4})$, where x_1 = the importance of the topic; x_2 = the size of the need; x_3 = expected amount of information inside normal media use; x_4 = expected costs of perceived information sources, and x_5 = expected amount of information outside normal media use.

The equation is only a tool of communication. It is <u>not</u> possible to measure the independent variables, and by use of the equation to determine P(C). The main reasons for this are scaling problems and the lack of knowledge about the coefficients (the relative strength of the variables). The equation is, however, not useless. It indicates the direction of the relationship between the dependent and independent variables, and we learn that not only the variables themselves but also certain relations between the variables are important.

To put it in a different way, we assume that the probability of consumption of information in relation to a certain information need is higher, the greater the size of the information need is - the more important the topic is - the better the relation between the importance of the subject and the costs is - the greater the expectations of amount of information are - and the better the relations are between expected amounts of information and the costs.

2. Further model construction

It is obvious that the model needs further developing and improvement for several purposes. For the purpose of both understanding and empirical analysis we need to identify the factors determining the value of the independent variables. These independent variables are broad categories, and for practical purposes it is important to identify relevant easier-to-measure, easier-to-understand, and easier-to-operate-on variables. Also, it should be very interesting to find out where the often used socio-economic data fit in.

The reader will recall that the purpose of this paper is to suggest a broad theory. Therefore a result like the following cannot be incorporated in the model: "the number of working hours have a limited effect on the reading of books and magazines, and (for females only) on the reading of newspapers - whereas an effect of this kind cannot be found when it comes to consumption of tv".[1] Instead, this finding is used to support an element in the model stating that "leisure time is a determinant of consumption of information". This statement then has to be specified according to different purposes.

In the following sections the five independent variables listed in figure V.1. are treated as dependent variables, the purpose being to identify the variables they depend on.

2.1. The importance of the topic

The meaning of this variable has to be determined from case to case. Therefore it is not meaningful to talk about general determinants of this variable. We can formulate hypotheses on factors determining the importance only when knowing the topic: does the consumer risk much economically; is the product important in a social sense; is there a physical risk, and so on.

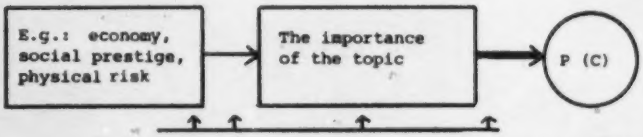
The "extended" model is illustrated in figure V.2.

2.2. The size of the need

The extension of the model in relation to this variable illu-

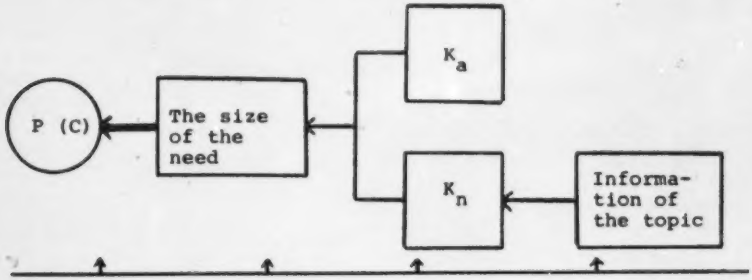
1) See Augedal 1970.

Figure V.2. Graphic illustration of the extension of the model: the importance of the topic.



strates the interaction between the main dimensions in information consumption behaviour, as this extension is identical with the model developed in chapter III on information need. The extension is illustrated in figure V.3.

Figure V.3. Graphic illustration of the extension of the model: the size of the need.



A comparison between figure V.2. and V.3. shows that the importance of the topic has two functions. It may seem strange, but is just one of many indicators of the complexity of the problems dealt with.[1)]

2.3. Expected amount of information in normal media use

The extension of the model in relation to this variable is illu-

1) An exact explanation is complicated, but of course possible.

strated in figure V.4.

Probably many factors influence the expected amount of information. At the present stage of knowledge they cannot all be listed. Therefore the model is first extended through broad explanatory categories of variables (independent variables in relation to expected amount of information, see the third row in figure V.4.). Thereafter examples are given of factors influencing these categories of variables (row four in figure V.5.). In order to prevent the reader from conceiving the theory as being more precise than it is, the relations between the two sets of independent variables are not specified.

Expected amount of information is defined as the portion of the need for information which the consumer expects to be able to satisfy. This expectation is a general evaluation based on the consumer's experiences with the supply of information.

Even though it may be close to a tautology, these experiences must be included as an explanatory factor. This is done through the variable "experiences with information value".

The concept of information value will be further discussed in chapter VI as an important determinant in the choice of information source. The variable is a measure of the consumer's expectation of changes in K_a due to use of an information source. The model assumes almost self-evidently that experiences with this information value will influence the expected amount of information. (The consumer has an experience with several sources of information, which he uses when buying e.g. food. His evaluations of the chances of satisfying a new information need of course depend on this experience).

The next independent variable to be introduced is self-evident, too, namely "total consumption of information". The greater the total consumption, the higher the expected amount of information is, expected information value being equal. (A consumer wanting a dress has better chances of satisfying her need for information on fashion if she reads several magazines and newspapers, than if she just reads the local paper).

Other factors than experience with information value may also modify the relationship between total consumption of information and expected amount of information. The model stresses two main factors. The first factor is "the distribution of total consumption of information on direct and indirect instrumental consumption and between media with different degrees of heterogeneity as regards content".

A combination of the two factors (variables) gives (cf figure V.4.) four types of information consumption. A consumer having a relatively large consumption of information of type 1 (he e.g. reads much fiction) will be low on expected amount of information inside normal media use. The higher proportions that types 2, 3, and 4 (in this order) compose of the total consumption of information, the higher the expected amount of information will be.

The other main factor is called the character of information consumption. Of course this character has many dimensions (which can be used in further extensions of the model). In the model relief is given to two characteristics. One is the distribution of the total consumption on concrete media (and thereby topics). The second is suitability of the consumption situation. "Suitable" means suitable for continued attention and active attention. The suitability varies according to whether a newspaper is read when going home from work, at home while the children are playing around, or late at night when the house is silent.

At a general level it is not possible to specify the role of the character of the consumption. In concrete situations, however, it is possible to analyse the distribution on topics and the suitability of the consumption situation and from this to draw conclusions on the expectations about amount of information.

The above is not a detailed description of reality, of course. It is a proposal meant to bring about important dimensions of analysis and thinking in order to evaluate the probability of information consumption.

As already mentioned, the model could be more detailed at the present level. However, this is outside the scope of this paper and is to be left for another paper or practical situation. Here

we shall concentrate on a further extension in our search for examples on variables which can be supposed to influence the main variables listed. They are 1) experience with information value, 2) the total consumption of information, 3) the distribution of the total consumption on direct and indirect consumption and on media with different degrees of content heterogeneity, and 4) the character of the consumption situation as exemplified by the distribution on media (topics) and the "suitability".

An extension of the model as regards information value is found in chapter VI. Therefore we can here focus on examples of variables, which can be hypothesised to determine or indicate the variables 2, 3, and 4.

Probably, the number of such variables is large and their interaction very complex. Therefore only four variables of the kind sought are found in figure V.4. Supposedly, they are good examples. In concrete situations it is necessary to think over whether it is possible from the examples to identify more or better factors to work with.

In brief, the variables in row four in figure V.4. can be commented upon as follows:

Length of leisure time:[1] The period when the consumer does not sleep or work. The total consumption of information is supposed - other factors being equal - to be proportional with the length of leisure time. Presumably, length of leisure time also determines the distribution of information consumption. The amount of indirect instrumental consumption e.g. grows with the length of leisure time. (The more leisure time the consumer has, the less he needs to relax and "escape" and the more time he has for different interests causing information needs).

Other activities:[2] This variable refers to activities other than media consumption in the leisure time, be they either enforced or

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1) Illustrations of the relationship between use of mass media and length of leisure time are e.g. found in Augedal 1970, Kleberg 1972, and Munk 1976.

2) The relationship between other activities and use of mass media is e.g. illustrated in Allart et al. 1958. See also Augedal 1970 and Wiknann 1974.

voluntary. The variable is important, but its role cannot be specified in general because of its strong dependence on the concrete situation.

Enforced activities will normally reduce the consumption of information and lead to a growing share of direct instrumental information. The influence of potential activities (carried out because they are attractive) can only be specified if we specify the activity. If it leads to increased use of information, it will normally lead to a growing share of indirect information.

Tiredness in the leisure time: Obviously, the total consumption of information depends on how tired the consumer is in his leisure time, but it is doubtful whether general relations can be specified. If, however, the medium is specified, such relations can be formulated. Tired people e.g. have a relatively high consumption of tv. It is hypothesised that tiredness leads to a growing share of direct instrumental information.

Access to media: Normally, access to media means physical and economic access. In this connection, we would recommend to be aware of a social dimension of access, too. Social access then is a variable which informs us which media are acceptable and normal in the consumer's social relations.

It is self-evident that access to media is closely connected with the total consumption and its distribution.[1] A specification is only possible in actual situations.

Individual characteristics: Figure V.4. also has a box named "individual characteristics". This is a black-box, meaning that psychological factors are supposed to influence the expected amount of information, but this influence will not be described here. For one thing in order to draw certain limitations, and for another because considerable space has been devoted to psychological variables in traditional communication literature.

The extension of the model is graphically illustrated in figure V.4.

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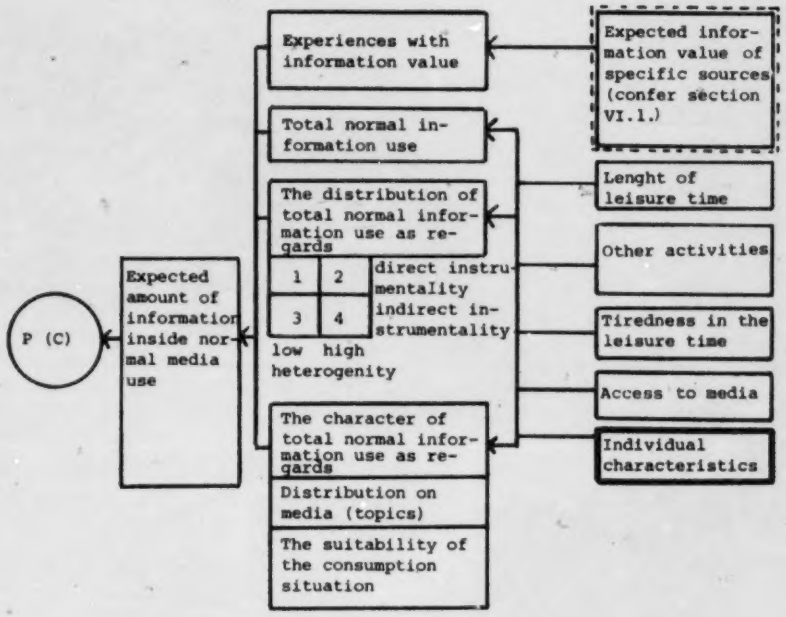
1) See e.g. Augedal 1970 or Edelstein 1974.

Figure V.4. Graphic illustration of the extension of the model: expected amount of information inside normal media use.



2.4. Expected costs of perceived information sources

Expected costs of perceived information sources are based on the consumer's experience with costs of information, which are based on the expected costs of specific sources.[1] An extension of the model is identical with the model on the information cost variable presented in the next chapter on choice of information source.

The extension of the model is graphically illustrated in figure V.5.

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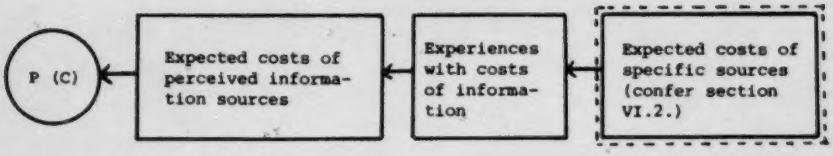
1) Cf the parallel assumption as regards expected amount of information.

Figure V.5. Graphic illustration of the extension of the model: expected costs of perceived information sources.


P (C)
Expected costs of perceived information sources
Experiences with costs of information
Expected costs of specific sources (confer section VI.2.)

2.5. Expected amount of information outside normal media use

The extension of the model as regards expected amount of information outside normal media use is not parallel to that of section 2.3. because by definition it is not a normal, regular use, but a use which can be altered in the very short run.

Therefore the predominant determinant of the expected amount of information outside normal media use is the consumer's experience with information value outside normal media use, cf section 2.3. It is also obvious that both physical and social access to media must be important determinants. However, their role can be specified only in concrete situations. Like in section 2.3. individual characteristics are considered a black box.

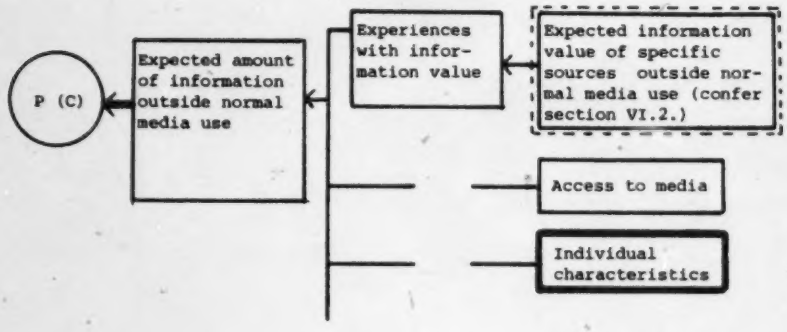
Total information use, its distribution and character can be seen as determinants of expected amount of information inside normal media use because these variables are unchanged in the short run, and their value is not dependent on immediate wants for information. The opposite is true as regards consumption of information outside normal media use.

Therefore any further extension of the model is not possible at the present time. The "extension" of the model is graphically illustrated in figure V.6.

3. Socio-economic variables

Much empirical research shows certain relationships between several socio-economic variables and consumption of informa-

Figure V.6. Graphic illustration of the extension of the model: expected amount of information outside normal media use.


P (C)
Expected amount of information outside normal media use
Experiences with information value
Expected information value of specific sources outside normal media use (confer section VI.2.)
Access to media
Individual characteristics

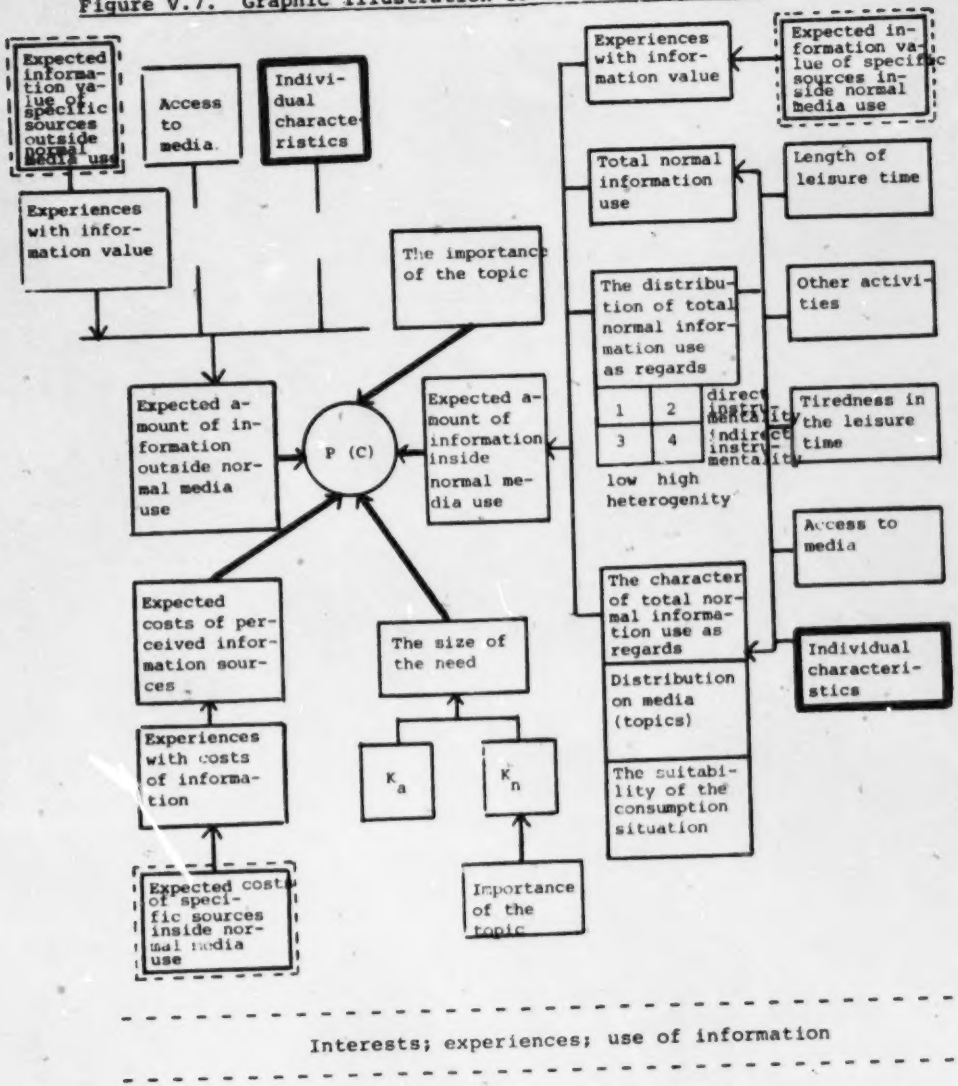
tion.[1] The results have often been achieved in a very mechanic way, and they are not unambiguous. Furthermore, socio-economic variables are registered in many situations. It is, therefore, worthwhile to try to understand the supposed relations between especially use of information and income, education, urbanisation, and often age.

This chapter has demonstrated that it is possible to construct a model of consumption of information without involving socio-economic variables, not on purpose, but because they do not possess any explanatory power that calls for a central position in the model.

This seeming discrepancy between many empirical research findings and this model can, however, be explained by the model: the socio-economic variables do not themselves determine a consumption of information. The variables do not explain the consumption of information (cf the fact that the results often differ in different investigations). The real explanations (determinants) are made up by the type of variables exemplified in this model. The correla-

1) Examples of this research are e.g. found in Arndt 1972, Bennett and Mandel 1969, Berning and Jacoby 1974, Block 1972, Bucklin 1966, Chaffee and McLeod 1973, Staelin and Newman 1972, Thorelli 1971, Sepstrup 1976. A complete review up to 1971 is found in Sepstrup 1971.

Figure V.7. Graphic illustration of the model on P (C).


Expected information value of specific sources outside normal media use
Access to media
Individual characteristics
Experiences with information value
The importance of the topic
Expected amount of information outside normal media use
P (C)
Expected amount of information inside normal media use
Expected costs of perceived information sources
Experiences with costs of information
Expected costs of specific sources inside normal media use
The size of the need
K_a
K_n
Importance of the topic
Experiences with information value
Expected information value of specific sources inside normal media use
Total normal information use
Length of leisure time
The distribution of total normal information use as regards
Other activities
1
2
3
4
direct instrumentality
indirect instrumentality
low high heterogenity
Tiredness in the leisure time
Access to media
The character of total normal information use as regards
Individual characteristics
Distribution on media (topics)
The suitability of the consumption situation
Interests; experiences; use of information

tion between consumption of information and socio-economic variables is found because these variables to a certain degree correlate with the aspects of the consumer's situation, which in the model are considered the real explanatory variables.

Therefore, from a theoretical point of view, the model will not be improved if we insert the socio-economic variables in it. The practical value depends on how well the socio-economic variables correlate with the explanatory variables. To establish this is one of the many projects suggested by the model.

Also e.g. sex has been demonstrated to determine the consumption of e.g. newspapers and magazines.[1] The reporting (and especially understanding) of such results has often involved a touch of female inferiority, which can now be set aside as the model here tells that differences in the use of media is not due to sex itself, but to the sex-related conditions. There are many other results where we can now move from description to understanding.

Figure V.7. summarizes graphically the model(s) proposed in this chapter.

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1) See e.g. Augedal 1970, Rosvoll 1970, Dansk Media Index 1976.

VI. CHOICE OF SOURCE OF INFORMATION

In this chapter we shall build up a theory which tells us where the consumer acquires information. This purpose includes three questions: 1) what determines whether initial attention is followed by continued attention or not, 2) what determines whether the consumption of information takes place inside or outside normal media use, and - most important for practical decisions - 3) what determines (inside or outside normal media use) the choice of specific sources of information.

The chapter also serves as an elaboration of chapter V as regards the variables information cost and information value.

Terms like "choice of information source" or "decision" do not imply any assumptions about the level of consciousness. What we mean is that the consumer behaves as if the processes described take place.

The first three sections deal with the above-mentioned three questions and the last two with the variables information value and information cost, which are found to play an important role.

1. From initial to continued attention

Assuming that the consumer has been brought to initial attention to information (an advertisement, an article, a tv-programme, a window display), what are the conditions of continued attention? Normally, this process is not considered a choice of information source. However, most consumption of information originates from passive attention inside normal media use (see chapter IV). The change from initial to continued attention therefore is a very important way of choosing information sources. The consumer sits down, reading his daily paper, he registers the presence of some kind of information (his attention is caught by the illustration of an advertisement for a new book) and has to decide whether or not his attention shall continue (i.e. use the source, consume the information, concentrate on further stimuli).

Chapter III said that the first necessary condition of continued attention is that initial attention gives the consumer the im-

pression that the information is relevant (the consumer wants the product, is interested in the Middle-East situation).

This, however, is a necessary but insufficient condition. The consumer's resources are limited (e.g. time) and he cannot pay attention to all kinds of relevant information. What then - besides relevance - determines whether the consumer will continue his contact with the information source?

The problem is characterised by a consumer having a need for information, an idea about the importance of the topic to which the need relates, and the possibility of acquiring information if he accepts a certain inconvenience or effort (cost), which he perceives as rather realistic, because he is very close to the source of information. In this situation we assume that the consumer behaves as if he considers two factors.

The first factor is a balancing of the expected cost x and the need y in relation to the topic z. (Is it worth the time and intellectual effort to go through a supermarket advertisement to find a bargain for tomorrow's dinner?).

The second factor is a balancing of the expected cost and the expected value of information.[1)] The relevance of this second factor is due to the fact that the cost of reading an advertisement or newspaper article or a leaflet in the mail may be acceptable concerning the need of information and the importance of the subject, but not concerning the expected information value, e.g. because the consumer too often has experienced that he learns nothing from advertisements for certain goods.

We may then conclude that if the initial attention makes the consumer suppose that the information is relevant, then the probability of continued attention depends on the importance of the topic and the size of the need for information, seen in relation to the expected costs of information and the relationship between expected value of information and expected costs of information. The probability is higher the better these relations are.

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1) The term value of information was introduced in V.2.3., and will be further defined and analysed in section 4 of this chapter.

Presumably, the described processes are so interrelated (and often unconscious) that the consumer cannot describe them. However, this does not mean that the model is without theoretical or practical value. If we want to understand or forecast information consumption behaviour, it brings us a step forward to think, analyse, and (partly) measure in accordance with the model proposed.

2. Active attention inside or outside the normal use of media?

We assume that a general evaluation of the relationship between value of information and information cost determines whether the use of information takes place inside or outside the normal use of media. The alternative preferred has the highest value of this relationship. The hypothesis is very logical, but perhaps not so important. It is even possible that this step in the choice of source is non-existent, which means that the consumer chooses directly between the individual sources. Therefore this short section may be more formal than important.

3. Choice of specific source of information

If the consumer seeks information (active attention), how then will he decide what information sources to use?

In accordance with the above sections we assume that the consumer behaves as if he chooses the source of information (or combination of sources) that has the best relationship between expected value of information and the corresponding expected cost of information (as perceived by the consumer).[1] The level of consciousness may differ, and the consumer of course only chooses from among the sources known to him.

The basic ideas in a model on the consumer's choice of information source have now been presented in the above three sections.

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1) This is of course a logical assumption. The problem has only been dealt with to a limited extent in the literature. Support for the hypothesis is found in e.g. Farley 1964, Downs 1966, Irwin and Smith 1956, Bucklin 1965, Bucklin 1966, Lundberg and Hultén 1968 (all on information costs) and Farley 1964, Grønhaug 1972, Sears and Freedman 1967, Theil 1967, Tipton 1970, and Westley and Severin 1964 (all on information value).

[1] Even though only basic ideas are presented we have obtained a more detailed and useful understanding than before as we have left the accepted method of combining media exposure and interest variables.[2] The variables "value of information" and "cost of information" have appeared to be extremely important. The building of a theoretically acceptable and useful model therefore demands a further analysis of these variables.

4. Expected value of information

There is no overall treatment of the concept of information value in the communication literature.[3] In this section we shall define information value and formulate hypotheses on the determinants of the expected value of information as perceived by the consumer in relation to a specific information source.

4.1. What is information value?

The term "information value" is often used in literature, but typically the concept is not defined,[4] or the definitions are too broad to be of any use.[5] The most important reason for the uncertainty in the analysis of information value in the communication literature is the mixing up of the value of information as such and the importance of the topic of the information.[6]

The approach in this paper makes it clear that the value of information and the importance of the topic are independent of each other and both separate, independent variables in relation to choice of information source. Both variables are important, but they should be kept separate.

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1) Schramm 1954, Sepstrup 1971, and Atkin 1973 have similar hypotheses on selection of communication source, but their point of view lacks precision and is not developed further than to a black-box level.

2) See most uses and gratifications studies.

3) Excluding the mathematical information theory (Shannon 1949, Miller 1953, Schramm 1955), which is of no use in a mass communication context.

4) See e.g. Cox 1967 or Howard and Sheth 1969.

5) See e.g. Lundberg and Hultén 1968 or Westley and Barrow 1959.

6) See e.g. Stigler 1961, Farley 1964, and Cox 1963.

The construction in this paper of an overall model on information consumption makes it easier to define the concept of information value. The model proposed in the preceding chapters and ordinary logic lead to a definition of the expected information value of an information source as the change in actual knowledge (K_a) due to the use of the source (initial and continued attention). Information changing actual knowledge to a higher level than necessary knowledge (K_n) is not regarded as having any information value. The perception of information value is subjective. Expected information value from the same source may vary with consumers of different backgrounds. Note that consumption of information does not necessarily diminish information need. It may also increase the need by influencing I_f or I_n.

4.2. Hypotheses on determinants of information value

According to the model, the choice of information source is determined by expected value of information and information costs. Expected value of information is defined as expected changes in actual knowledge.

This seems relatively simple, but this may not be the case as far as reality is concerned.[1] Therefore, and because we know too little we shall concentrate on some basic assumptions which can 1) help understand and predict the consumer's choice of source, 2) tell the sender how to choose the right media, and 3) tell the media how to increase their attraction to the consumer.

It is not surprising that expected value of information is basicly seen as a function of three factors: relevance, credibility, and comprehensibility. The consequence of this is that the consumer prefers a source of information that carries a new and useful (relevant) message which it is possible to comprehend and believe.

4.2.1. Expected relevance

Expected relevance is a comprehensive concept covering several related variables, which are important because they influence

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1) Among the complicating factors may be mentioned that K_a has at least two dimensions to which changes may refer, namely a quantitative dimension and a qualitative one.

the perception of the similarity between the content of the source and the information needed.

At least two basic factors influence the evaluation of the relevance. They are 1) the expectation that the source contains information different from actual knowledge, and 2) expected predictive value of information.[1] The higher these expectations are, the higher the value of relevance expected is, and consequently the value of information. (The difference between 1) and 2) is illustrated by a consumer who expects information on a loudspeaker in advertisements in his local paper to be different from his actual knowledge (the first variable), whereas he expects the predictive value of information to be low because he is interested in the sound and expects the information to be on the design).

Possibly, expected relevance also depends on who else the consumer thinks will use the information.

4.2.2. Expected comprehensibility

Expected comprehensibility is a comprehensive concept covering several related variables, which are important because they influence the consumer's possibilities of perceiving and handling information. Among other factors we expect comprehensibility to depend on expectations about the phrasing and presentation.[2]

4.2.3. Expected credibility[3]

Expected credibility is a comprehensive concept covering several related variables, which are important because they determine the consumer's perception of the objectivity of the information.

Several variables presumably determine the consumer's evaluation

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1) The term is introduced in Cox 1963. Cox does not distinguish between predictive value of information and predictive value of the topic.

2) Further specifications of these relations may be found in the literature on language and advertising.

3) In the communication literature credibility is often considered an independent variable influencing effect; see e.g. Westley and Severin 1964, Berlo, Lemmert and Mertz 1969/70, Lundberg 1973, Maloney 1963, and Edelstein 1974.

of the credibility of the source. Three are incorporated in the model. They are 1) the expected intentions of the sender, 2) the expected expertness of the communicator, and 3) the expected topicality of the information.[1)]

The variable in the model relating to intention is formulated as the consumer's expectation to the degree of accordance between the consumer's motive to use the information and the sender's motive to send it. (The consumer may think that there is a better accordance between his and a retailer's intentions than between the intentions of a brochure and the consumer's intentions, because the retailer is not dependent on a single brand). The higher the expected agreement, the higher the expected credibility is.

The variable in the model relating to expertness is formulated as the consumer's expectation from the competence/knowledge of the source. (The consumer may think that the expertness of the weather forecast is higher on tv than in a newspaper). The higher the expected expertness, the higher the credibility is.

The variable in the model relating to topicality is formulated as the consumer's expectations from the ability of the source to carry the latest possible information. (A consumer may e.g. believe that advertisements are very topical, while this is not necessarily true as regards consumer magazines). The higher the expected topicality, the higher the credibility is.

4.2.4. Socio-economic variables

A number of investigations indicate a correlation between different socio-economic variables and choice of information source.[2)] The explanation of this (and the relationship between these variables and the model) is the same as in chapter V, section 3.

The model of information value is graphically illustrated in figure VI.1. It is a basic structure, which is to be extended or

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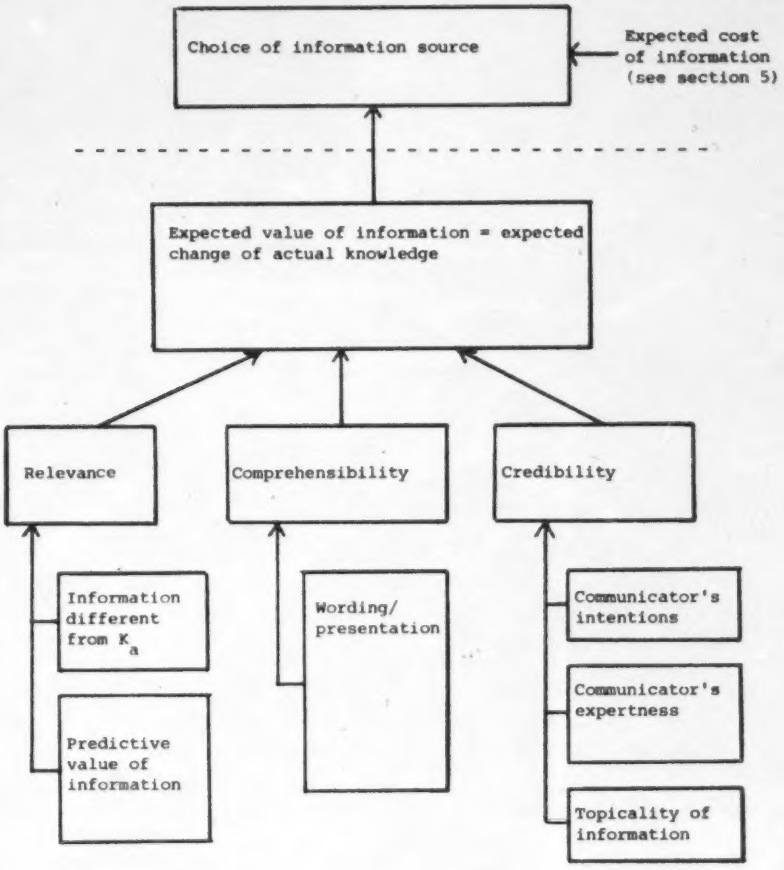
1) Cf Hovland, Janis, and Kelley 1953.

2) See e.g. Westley and Severin 1964, Bostian and Ross 1965, Samuelsson, Carter, and Ruggels 1963, Augedal 1970, and Rosvoll 1970.

detailed in accordance with the user's need and the knowledge acquired through research and practice.

Figure VI.1. Graphic illustration of a model of information value



5. Expected cost of information

In this section we shall define the concept of information cost and formulate hypotheses on the determinants of expected cost of perceived specific sources.

5.1. What is cost of information?

The literature of communication has no real analyses of the information cost concept. The expected information costs of perceived information sources are defined as the disutility (disadvantage) associated with the use of the information source.

The cost concept is related to a source, not an amount of information. If the consumer intends to use the "source" only partly (listen only to the weather forecast in the news, only read the classified advertisements in the newspaper, or only to study the technical information in the brochure), this part is considered the information source. The costs of information are always the additional cost due to the specific consumption of information. (If a consumer intends to look for footwear-sale advertisements when reading his daily paper, the expected costs of information are only the costs added because of this activity, not the total cost associated with purchasing and reading the paper. The opposite is true if the newspaper is bought only for the sake of the shoe-sale advertisement. Confer the costs as a reason for consuming information inside normal media use).

5.2. Hypotheses on determinants of costs of information

Basically, the costs of information consumption - according to the model - are determined by the expected use of time, expected use of money, expected postponement of the behaviour causing the information need, expected alternative use of time necessary for the information consumption, and expected physical and psychological strain.[1] The variables use of time and use of money need no explanation. Postponement represents the disutility (inconvenience) of waiting. (The consumer may consider buying a percolator for a long time, but when he has decided to do so, the disutility of waiting another day because of lack of information may be enormous). Physical and psychological strain represents the physical and emotional/intellectual effort that may be necessary in order to acquire the information.

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1) This basic model may be further developed through hypotheses on relations between these expectations and the consumers' individual characteristics and social situation.

These variables do not have the same relevance in relation to all sources or in different situations. But they are the basic variables from which to understand expected cost of information or to analyse or compare different sources of information.

It is very important to note that there are two steps in the formation of information costs. The first step is e.g. the time (minutes) the consumer expects the consumption of information to take. The next step is the (individual) transformation of this time to a cost (disutility). Therefore expected cost is not a function of e.g. use of time, but a function of the perception of the used time as a cost.[1] We can therefore incorporate the following relationship in our model:

Expected information cost of perceived information sources = f {
- The perception of expected use of time as a cost
- The perception of expected use of money as a cost
- The perception of expected postponement as a cost
- The perception of the expected utility of an alternative use of time as a cost
- The perception of expected physical and psychological strain as a cost

There are several possible determinants of the perception of expected use of time as a cost. Some basic assumptions to be incorporated in the mocel are that the perception of expected use of time as a cost is a function of 1) the consumer's (subjective) perception of length of leisure time - the more time, the less cost is involved in use of time, 2) alternative possibilities of activity - the more possibilities, the higher the cost associated with the use of time, 3) the extension of normal media use - the higher the normal consumption, the less extra time will normally be necessary to meet a need for information, and 4) the consumer's perceived ability to acquire and handle information - the higher the perceived ability, the less time is expected to be necessary.

The perception of expected use of money as a cost cannot be expressed as a specific amount. The question is whether the expect-

1) No existing empirical investigations have taken this into consideration.

ed necessary amount is perceived as a small or high amount. The most obvious determinant of this is of course income.

As a basic assumption it is incorporated in the model that the perception of expected postponement as a cost is a function of 1) the consumer's perception of the urgency of the topic to which the information need is related (the more urgent, the higher the cost of postponement), and 2) the consumer's expectation that the information will be there when he needs it. The lower this expectation, the higher the expected cost of postponement is. (Food advertisements in the local newspaper have a high value of this variable, official consumer information on refrigerators a low one).

The perception of the expected utility of an alternative use of time as a cost is difficult to determine. The perception may depend on many circumstances, which can only be specified in a concrete context. In a basic model we may summarize these circumstances as the consumer's alternative possibilities of activity. The cost is higher, the more and the better alternative possibilities the consumer has. As a basic assumption it is incorporated in the model that the perception of expected physical and psychological strain is a function of 1) the consumer's perception of tiredness in the leisure time - the more tired, the higher the cost is, 2) the consumer's abilities to acquire and handle information - the better the abilities, the less the cost is, 3) the physical distance between the consumer and the information source - the longer the distance, the higher the cost is,[1] and 4) access to the source[2] - the more difficult the access, the higher the cost is.

5.3. Socio-economic variables

No research demonstrates the relations between socio-economic variables and expected cost of information. It should, however, be possible to argue that certain relations exist between the independent variables and e.g. education, income, age, and urbanisation, the relationship being different for different sources.

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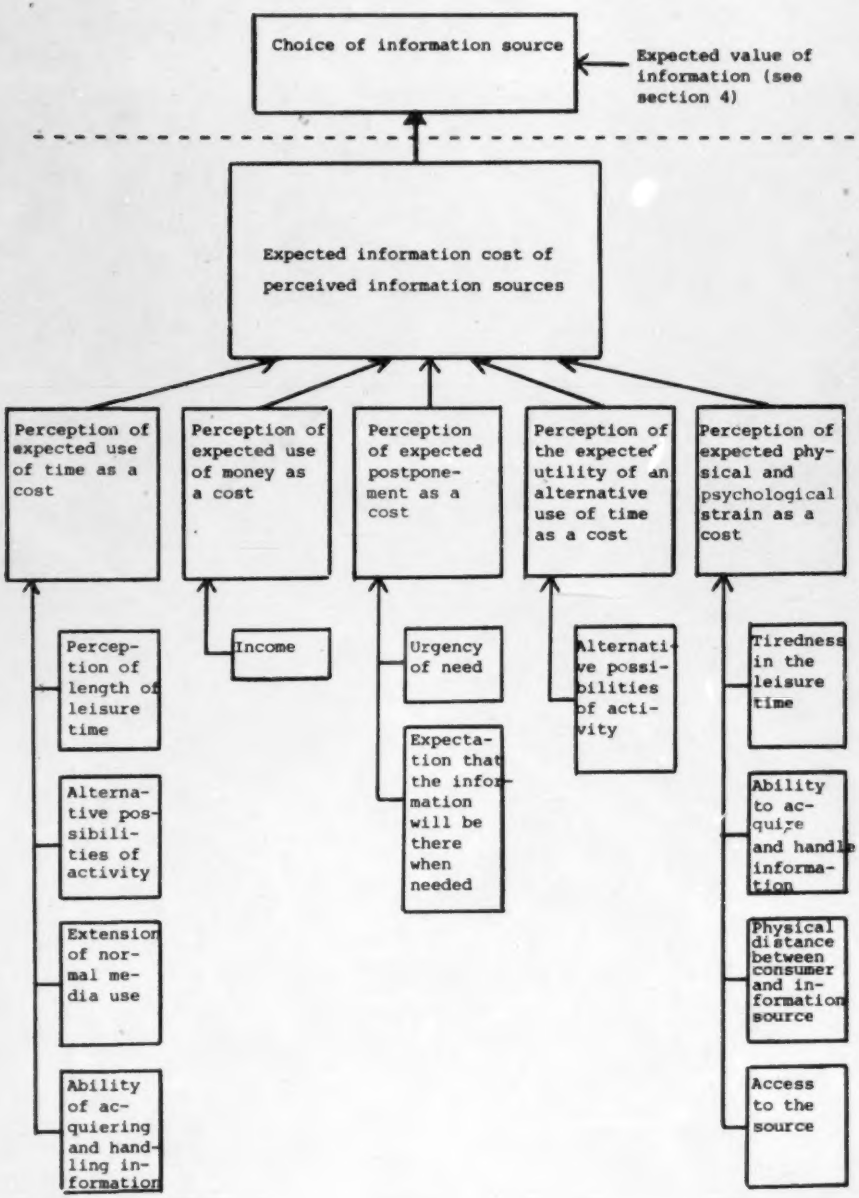
1) The importance of physical distance has often been illustrated. Quite different examples are Augedal 1970 and Bucklin 1969.

2) Cf chapter V.

Figure VI.2. Graphic illustration of a model of information cost.


Choice of information source
Expected value of information (see section 4)
Expected information cost of perceived information sources
Perception of expected use of time as a cost
Perception of expected use of money as a cost
Perception of expected postponement as a cost
Perception of the expected utility of an alternative use of time as a cost
Perception of expected physical and psychological strain as a cost
Perception of length of leisure time
Alternative possibilities of activity
Extension of normal media use
Ability of acquiering and handling information
Income
Urgency of need
Expectation that the information will be there when needed
Alternative possibilities of activity
Tiredness in the leisure time
Ability to acquire and handle information
Physical distance between consumer and information source
Access to the source

This should be further investigated.

As mentioned above the purpose of this section has been to present a general model which can function as a platform for further theoretical and practical work. Undoubtedly, it is possible to be much more precise in the pin-pointing of determinants when specifying the source.

The model on expected information cost of perceived information sources is graphically summarized in figure V.2.

VI. CONCLUSION

In the previous chapters we have formulated a great number of hypotheses, which together constitute a model on consumption of information. This has been done in the light of specified assumptions concerning the relationship between mass communication and individuals. The most important elements in the model are the pin-pointing of the conditions necessary to the acquisition of information, the determinants of the probability of consumption of information in relation to an information need, and the explanation of how and where consumption of information takes place. Each of the dimensions of information consumption behaviour are analysed separately, but it is also obvious that the various dimensions are integrated elements with close interrelations and common determinants.

The model constructed in this paper does not cover all problems of information consumption behaviour. It presents basic outlines, and is often more tentative than perfect. In spite of this, however, it does increase our understanding of the use of information (mass media) and does offer some help, whether the goal is a comprehensive theory of mass communication, the creation of profitable advertising campaigns, or a radical change of the media system.

The model may be said both to have been tested and not to have been so. The model has not been tested empirically, as it is presented here, but it has been tested in the sense that many of the components have an empirical reference. Almost all variables have been operationalised and field research is in progress to test different components of the model. It is, however, important first to get a theoretical feed-back before investing in large-scale empirical research. This paper has been written to get this feed-back, and because the model in its present form may hopefully offer inspiration for practicians as well as researchers.

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